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ABSTRACT

A study examined the development and functioning of a task targeted toward helping students use context clues more effectively. Subjects, five fifth- or sixth-grade remedial students of low verbal ability, were presented target words in contexts of one to three sentences taken from fifth and sixth grade basal stories as part of a 5-step training task. Quantitative and qualitative results indicated that each of the five students made progress. Results also indicated that four of the five students appeared to internalize the training task and were similar to "high ability" students in an earlier study. Findings suggest that the training task may be a useful tool to help students develop a more productive process for dealing with contexts. (Contains 10 references and three tables of data.) (RS)

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Study to Train Remedial Elementary Students to Become More Sensitive to Context Clues

Betty L. Goerss, Isabel L. Beck, Margaret G. McKeown

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Purpose of the Study

The work that I am going to report today was targeted toward helping students use context clues more effectively. Although there is evidence indicating that children learn new words by reading them in natural context (Carnine, Kameenui, & Coyle, 1984; Jenkins, Stein, & Wysocki, 1984; Nagy, Herman, & Anderson, 1985), research seems to suggest that students whose vocabulary is most in need of being increased are least likely to be able to get information from context (McKeown, 1985; Quealy, 1969; van Daalen-Kapteijns & Elshout-Mohr, 1981). Furthermore, several studies confirm that deriving word meaning from context is a complex process and not necessarily automatic or efficient (Carnine et al., 1984; Jenkins, Matlock & Slocum, 1989; McKeown, 1985; Werner & Kaplan, 1952). This leads to the notion that teaching students how to use context to derive word meaning is not straightforward, but is important. We developed a training task that deals with some of the complexities through teacher modeling, followed by interactive practice.

Overview of the Study

The focus of our work was developing the training task and coming to understand how the task functioned. So we included only five subjects in order to look in depth at the procedure and to track growth over time. I met individually with the students for nine sessions of approximately one-half hour each. Two sessions were devoted to a pretest and a posttest and seven sessions to training. Between six and twelve training items were used in each session, based on the amount of time students' responses took. A variety of context types, difficulty level, function in sentence, and clarity level were presented in each training session.

Subjects:

The five subjects were fifth and sixth grade remedial students. They were identified as remedial readers, based on having scored at least one and one-half grade levels below their grade placement on the Metropolitan Achievement Tests (1986), and receiving remedial instruction through Chapter I. In addition, the subjects were further identified as low verbal students from their scores on the vocabulary subtest of the Gates MacGinitie Reading Tests (1989). I read the test orally to a group of students in order to eliminate decoding difficulties as the cause of their remedial designation. Five of the lowest scoring students on this screening device participated in the study.

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Materials:

The training items consisted of target words presented in contexts of one to three sentences taken from fifth and sixth grade basal stories. Target words were those that had been preselected by the basal programs as vocabulary for specific stories in their fifth and sixth grade readers and as such were assumed to be potentially unfamiliar to the fifth and sixth grade subjects in this study. In addition, at least one training item was presented during each session that contained a pseudoword substituted for a word that would probably be a part of the student's vocabulary. This assured a training opportunity in which the student definitely did not know the word. The materials included one hundred three training items, a pretest, and a posttest.

The pretest and posttest each consisted of six items based on those used by McKeown, designed to probe students' ability to identify useful context. Students selected or rejected meaning choices for a pseudoword, justified those choices using context clues, and used additional context to narrow the meaning of the pseudoword.

Procedure:

Now I am going to tell you about each step of the five-step training task that we developed: As each training item was presented either the student or I read it. This first step was read/paraphrase. For example:

> As for Rusty, he *scowled* at Mary before stamping out of the room. "And I'm not coming back either, see!"

After an item was read it was paraphrased by the student or by me. For instance,

> So? Rusty does this *scowled* thing at Mary and then stamps out of the room. As he does this he says, "And I'm not coming back either, see!"

The second step, query/discussion, focused on finding clues to the meaning of the word. Consider the following dialogue.

> Investigator: What is happening in these sentences?
> Student: Rusty is mad at Mary about something and he stamped out of the room.
> Investigator: Good, is there anything else?
> Student: Well, he yelled at her as he went out the door that he wasn't coming back.

Notice I questioned the student to guide his understanding of the sentences and focus on context clues that were helpful in generating possible meanings for the target word.

In Step 3 the student was asked to provide an initial identification of the word and rationale for the decision. You will notice in an example of this step the student is able to generate *yelled* as a plausible meaning for scowl*ed* and provides rationale that includes helpful context.

Investigator: What do you think scowled might mean?
Student: *Yelled*
Investigator: Why do you think it is *yelled?*
Student: Well, he is mad at her and then he yelled that he wasn't coming back.

If a student was unable to provide a response at this point or failed to use context clues, I guided the student by reviewing the query/discussion step of the task, perhaps drawing attention to relevant context clues. Then the student was encouraged to provide an idea for the meaning, not necessarily an exact word. In the typical dialogue that follows, notice that I return to the context and ask a specific question to guide the student in generating possible meanings.

Investigator: What do you think *scowled* means?
Student: (no response)
Investigator: Let's look at the sentence containing *scowled.* "As for Rusty, he *scowled* at Mary before stamping out of the room." When someone stamps out of a room, what do you think they are feeling?
Student: Mad or upset

Investigator: Right, so if Rust is mad or upset, what are some things he might do at Mary?
Student: *Yell or throw something*

The fourth step, placing constraints, was to help students examine more possibilities and refrain from the expectation that it is necessary or even possible to find one right meaning for every unfamiliar word. The following dialogue is an example of this step.

Investigator: Can you think of some other possible meanings?
Student: *Make faces at her*
Investigator: Why do you say make faces at her?
Student: If you are mad at someone, you might make a face at them before you stamp out of the room.
Investigator: Can you think of anything else scowled might mean?
Student: *Shake his fist*

Investigator: What made you say that?
Student: I shake my fist when I am mad at my sister.

Notice the student was able to generate two other possible meanings using the context and prior knowledge.

The last or summary step was to pull all the information together about the target word, helping the student focus on what could be inferred about the word and what it might mean. In the dialogue that follows, the student is able to focus on the idea that *scowled* was an angry action Rusty was doing at Mary.

Investigator: What do we know about scowled?
Student: It is something Rusty did at Mary. He was mad because he stamped out of the room telling her that he wasn't coming back. It could be *yelled* or *shook his fist* or m*ade an angry face at her.*
Investigator: Any one of those might be possible meanings for *scowled* based on these sentences.

This is the type of dialogue that occurred in the training sessions with the five students.

Results:

Now let me share with you some results of this study. We evaluated the effectiveness of the training using both quantitative data from the pretest and posttest measures and a qualitative analysis of the in-progress data as well as the pretest and posttest. Both quantitative and qualitative results show that each of the five students made progress.

Table 1 shows students' pretest and posttest results in terms of their ability to select or reject possible meanings for pseudo words in sentences. Improvement ranged from 13 percentage points for Brad to 58 percentage points for JD.

Table 2 shows students' improvement in the ability to justify those meanings that might be appropriate candidates and those meanings that were not potential candidates. Here improvement ranged from 13 percentage points for Charles to 47 percentage points for JD.

Table 3 shows students' improvement in the ability to use additional context to discriminate among meaning choices. Here improvement ranged from 17 percentage points for Charles to 47 percentage points for Lisa. As indicated on all three tables, there was a tendency for those who scored the lowest on the pretest to make the most gains.

Our qualitative analyses revealed several interesting tendencies. Let me share three situations that were characteristic of students' initial approaches to context. The first was marked by limited use of the context. At the beginning of training the students often did not consider all aspects of the context that were needed to derive the meaning of a target word. It seems that the training students received was successful in intervening in the tendency to limit contextual focus. An example that illustrates how the training addressed this issue comes from the third session with Sheila. I presented Sheila with a context that used *laked* as a pseudoword for *dragged*.

> Mr. Jones *laked* several scraps of lumber to the middle of the garage and leaned them against an old table.

Sheila seemed to understand the sentence as indicated in her explanation of the situation, as she began to try out some possible meanings.

> Sheila: He's getting scraps of lumber and leaning them against the old table, it could be *put*.
> Investigator: What else could it mean?
> Sheila: *burned, because* you can burn wood.
> Investigator: Yes, you can burn word, but use the rest of the sentence.

Sheila then tried *burned* in the sentence and quickly realized her error.

> Sheila: Mr. Jones burned several scraps in the middle of the garage--whoops, no!

The data contained a number of these on-line "light bulb" responses which are both interesting and revealing. Subsequently, Sheila was able to generate *lay* and *push* as possible meanings for *laked*.

The two other situations characteristic of student responses were misuses of the context to derive meaning. In one of these situations, students tended to confound the meaning of the target word with that of the entire context. This way of dealing with context was prominent in the classic Werner and Kaplan (1952) study. They referred to it as "sentence-core concept." An example might be using the sentence: "Frank felt *giddy* as he walked along with all the change in his pocket," A sentence-core response when asked what *giddy* might mean would be: "feeling like you have a lot of change in your pocket." Three of the students exhibited this tendency in early training sessions. All three appeared to eliminate this problem as there were no instances of this difficulty in the last few sessions or on the posttest.

The other misuse of context involved going beyond the limits of meaning set by the context in order to hypothesize a situation or "scenario" into which a meaning might fit. As such, students more or less free associated between the context and meaning possibilities for the word rather than considering the appropriateness of a meaning to its use in the context. This tendency was noted in McKeown's (1985) study of context use, especially in lower ability students. In the present study, four of the five students exhibited the tendency to build scenarios to evaluate word meaning and for two of the students, it was the characteristic way of dealing with context. The tendency virtually disappeared for everyone but Lisa, and the frequency of use declined dramatically even for her, the most tenacious scenario builder. An example of scenario building comes from Lisa's response on the pretest to *sell* as a meaning for the pseudoword *steen* in the sentence, "Because I love corn on the cob, I would like to *steen* some." She responds by bringing forth a situation that is well beyond ideas in the context. When asked if *steen* could mean *sell,* Lisa said:

> Yes, [it could be *sell]* because if you make some money, you could grow some corn and sell it.

An example that illustrates the growth in students' ability to put meaning clues together comes from Lisa's final training session. Lisa was presented with this context for *conscientious:*

> She wouldn't have forgotten. Sister Frances isn't like that. She's very *conscientious;* in fact, she says so herself and expects all of us to be too.

First Lisa began to think through the context, suggesting that "Sister Frances, forgotten, and expects all of us to be" were clues to the meaning of *conscientious*. Lisa then went on to explore what these clues might yield as a meaning for the word. As she did so, she was able to discern the most meaningful aspect of the context--that *conscientious* is a quality that Sister Frances has and expects others to have--and keep her focus on it as she generated possible meanings.

> *Conscientious* could be *nice* because she said so herself and expects everyone to be like that. Or *caring* because it is how she wants everyone else to be. *Friendly*, because she is telling everybody that she is like that and she wants everybody to be like, that's how they'd like to be treated back. *Conscientious* is how she, the way she told people to act.

So, it seems the training helped students to stick with the context in trying to generate and evaluate possible meanings. It was apparent in later training sessions

and in the posttest that students were better able to remain focused and explore the context for clues rather than jump beyond the context to a scenario, or overstep the bounds of the word meaning to incorporate the entire sentence. The students also became more able to explore the full range of the context presented rather than limiting their focus to a single aspect.

Major Findings:

One way of assessing the effectiveness of the training is to compare students in this study with those in McKeown's (1985) study. All five students in this study were comparable with McKeown's low verbal students in terms of percentage of correct responses and the kinds of errors made on the pretest. Following training, four of the five students in the present study were similar to the high ability students in McKeown's study in terms of percentage of correct responses on the posttest.

An additional way to lock at the effectiveness of the training is in terms of students' reaction to the training. Four of the five students appeared to internalize the training task, as demonstrated by their ability to think aloud about their own reasoning and self-correct when they realized their reasoning was faulty.

It seems that the training task we developed for this study may be a useful tool to help students develop a more productive process for dealing with contexts. Future research should involve trying out the procedure with more students and adapting it for groups of students.

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Table 1

Percentage of Correct Responses

Selection/Rejection of Choices

Student	Pretest	Posttest
Lisa	47	72
JD	39	97
Sheila	53	92
Brad	81	94
Charles	64	89

Table 2

Percentage of Correct Responses

Justification of Choices

Student	Pretest	Posttest
Lisa	36	53
JD	29	76
Sheila	42	86
Brad	63	86
Charles	56	69

Table 3

Percentage of Correct Responses

Context Discrimination

Student	Pretest	Posttest
Lisa	6	53
JD	36	72
Sheila	39	67
Brad	58	78
Charles	8	25